



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,209	03/18/2004	Andreas Kuhstoss	GKN-0150	5824
23377 7590 05/22/2007 WOODCOCK WASHBURN LLP CIRA CENTRE, 12TH FLOOR 2929 ARCH STREET PHILADELPHIA, PA 19104-2891			EXAMINER LOPEZ, CARLOS N	
			ART UNIT 1731	PAPER NUMBER
			MAIL DATE 05/22/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/803,209

Applicant(s)

KUHSTOSS ET AL.

Examiner

Carlos Lopez

Art Unit

1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-16, 18-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-16 and 18-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8-16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neumann WO 99/54524, for which Neumann et al (US 6,652,804) will be referenced, in view of Third et al (US 5,592,686). Neumann discloses a method of making a porous sintered metal film. The method comprises making a mixture comprised of sinterable powder in a carrier fluid comprised of a binder and a solvent (See claim 1 of Neumann). The mixture is then applied to a carrier substrate, which as noted in Col. 4, lines 60ff is comprised of a tubular porous substrate, to form a green layer that is subsequently sintered to form a porous metal film (See claim 1 of Neumann).

Although Neumann is silent disclosing adding a pore former material to the mixture, he does note that based on the selection of metal to be applied, practically every requirement in regards to mechanical, thermal and/or chemical resistance can be met (Col. 4, lines 14ff). This clearly shows that the claimed properties such as the claimed tensile strength is dependent on the desired property which does not define a particular positive active step.

Third teaches of making porous metal structure by providing a mixture comprised of sinterable powder in a carrier fluid comprised of a binder and then laying the mixture

Art Unit: 1731

onto a substrate (see abstract). Third notes that a pore forming material can be added to the mixture and points out that by adding a pore former control of the pore distribution can be achieved without the need to use labor intensive prior art controls of changing metal particle sizes to achieve the porosity (see Third Col. 3, lines 20ff).

Hence, at the time the invention was made, it would have been obvious to a person of ordinary in the art to have added a pore former material as taught by Third in the mixture of Neumann in order to provide control of the pore distribution can be achieved without the need to use labor intensive prior art methods.

Third specifies at line 24ff in Col. 5 of, the desired porosity is obtained by controlling by the particle size and as noted above by Neumann that the selection of metal to be applied, any desired mechanical, thermal and/or chemical resistance property can be met (Col. 4, lines 14ff). Hence, the combined teaching of Neumann and Third envisage the means to obtain the claimed tensile and pore size property.

As for claim 8, Third in Col. 5, lines 24ff notes that the size of the pore forming agent and amount is select to provide the desired porosity/pore volume, hence the proportion of the pore forming material corresponds to the predetermined/ desired pore volume.

As for claim 9, see above.

As for claim 10, the size of the pores forming material powder naturally vary in size, meaning the size of the powder inherently varies, as such a graded layer design would have been expected to be produced by the combined teachings of Neumann and Third.

As for claim 11, claim 2 of Neumann notes of applying many partial layers on the substrate.

As for claim 12, claim 5 of Neumann notes of drying each layer prior to depositing an additional layer.

As for claim 13, claims 7 and 8 of Neumann note sintering of the layer prior to the application of the next layer.

As for claim 14, claim 10 of Neumann notes the claimed coating methods.

As for claim 15-16, Col. 4, lines 45ff of Neumann notes of providing a porous substrate and rotating the substrate as the mixture is being applied thereon.

Claims 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neumann WO 99/54524, for which Neumann et al (US 6,652,804) will be referenced, in view of Third et al (US 5,592,686) as applied to claim 18 above, and in further view of Applicant's Admitted Prior Art in paragraph 3 (PAT). As previously noted above, Neumann notes that based on the selection of metal to be applied, practically every requirement in regards to mechanical, thermal and/or chemical resistance can be met (Col. 4, lines 14ff). PAT further teaches that metallic fiber material can be used to form a porous layer in the form of tissues or fabrics.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have use metallic fibers as taught by PAT in order to form a porous layer in the form of tissues or fabrics. In using metallic fibers, the claimed invention is following the general principle taught by Neumann that metal selection can be used to acquire the desired end product. In further view that PAT already uses

Art Unit: 1731

metallic fibers to form porous layer in the form of tissues and fabrics, a person of ordinary skill in the art would readily envisage the use of Neumann's method with what is known in the art, which is to use metallic fibers to form porous layers forming tissues or fabrics.

In regards to claims 20-22, the claimed limitation is following the above noted general principle, which notes that type of metal used, hence particle size, determines a sought property of the resulting end product. Thus the claimed particle size is dependent on the sought property. Applicant is also referred to Third teaching that the diameter of the metal particles ranges from .5 to 300 μ m, hence encompassing the claimed ranges (See Third Col. 4, lines 5ff).

Response to Arguments

Applicant's arguments filed 3/5/07 have been fully considered but they are not persuasive.

Applicant argues that importation of the Third patent into Neumann would at most be obvious to try, not obvious to do, As such, applicant request withdrawal of the rejections.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

The standard that it must be obvious to try is not found in the MPEP. The USPTO in determining obviousness uses the above factual inquiries.

As noted above Neumann is silent disclosing adding a pore former material to the mixture, he does note that based on the selection of metal to be applied, practically every requirement in regards to mechanical, thermal and/or chemical resistance can be met (Col. 4, lines 14ff). This clearly shows that the claimed properties such as the claimed tensile strength is dependent on the desired property which does not define a particular positive active step

Third teaches of making porous metal structure by providing a mixture comprised of sinterable powder in a carrier fluid comprised of a binder and then laying the mixture onto a substrate (see abstract). Third notes that a pore forming material can be added to the mixture and points out that by adding a pore former control of the pore distribution can be achieved without the need to use labor intensive prior art controls of changing metal particle sizes to achieve the porosity (see Third Col. 3, lines 20ff).

Hence, at the time the invention was made, it would have been obvious to a person of ordinary in the art to have added a pore former material as taught by Third in the mixture of Neumann in order to provide control of the pore distribution can be achieved without the need to use labor intensive prior art methods.

Third specifies at line 24ff in Col. 5 of, the desired porosity is obtained by controlling by the particle size and as noted above by Neumann that the selection of metal to be applied, any desired mechanical, thermal and/or chemical resistance properties can be

Art Unit: 1731

met (Col. 4, lines 14ff). Hence, the combined teaching of Neumann and Third envisage the means to obtain the claimed tensile and pore size property.

In response to applicant's argument that Third does not provide for the claimed tensile strength and pore diameter, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In regards to the arguments against the rejection of claim 10, applicant is referred to example II of Third noting that the pore former is ball milled with the sinterable material. In ball milling the resulting particles are not of the same size thus showing that the pore former having different sizes would provide different pore sizes. Moreover, as evidenced by Example II's noting that the article has an average porosity, indicates that varying portions of the resulting article would have different porosities, hence, different pore sizes.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not


Art Unit: 1731

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos Lopez whose telephone number is 571.272.1193. The examiner can normally be reached on Mon.-Fri. 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571.272.1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


STEVEN P. GRIFFIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

CL